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# Food and Home Notes

UNITED STATES DEPARTMENT OF AGRICULTURE  
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## TEMPERATURE GUIDE TO FOOD SAFETY

°F

250

240

Canning temperatures for low-acid vegetables, meat, and poultry in pressure canner.

Canning temperatures for fruits, tomatoes, and pickles in waterbath canner.

212

Cooking temperatures destroy most bacteria. Time required to kill bacteria decreases as temperature is increased.

165

Warming temperatures prevent growth but allow survival of some bacteria.

140

125

Some bacterial growth may occur. Many bacteria survive.

### DANGER ZONE

Foods held more than 2 hours in this zone are subject to rapid growth of bacteria and the production of toxins by some bacteria.

60

Some growth of food poisoning bacteria may occur.

40

32

Cold temperatures permit slow growth of some bacteria that cause spoilage.

Freezing temperatures stop growth bacteria, but may allow bacteria to survive. Foods can spoil at temperatures below freezing. Do not store food above 10° F for more than a few weeks.

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**DO NOT STORE RAW MEATS FOR  
MORE THAN 5 DAYS,  
ALL POULTRY, FISH OR GROUND  
MEAT FOR MORE THAN 2 DAYS  
IN THE REFRIGERATOR**

SPECIAL ISSUE: FOOD SAFETY

## BACTERIAL FOODBORNE ILLNESS: CAUSES SYMPTOMS AND PREVENTION

Name of illness	What causes it	Symptoms	Characteristics of illness	Preventive measures
<u>Salmonellosis.</u>  Examples of foods involved: Poultry, red meats, eggs, dried foods, dairy products.	Salmonellae. Bacteria widespread in nature. live and grow in intestinal tracts of human beings and animals.	Severe headache, followed by vomiting, diarrhea, abdominal cramps, and fever. Infants, elderly, and persons with low resistance are most susceptible. Severe infections cause high fever and may even cause death.	Transmitted by eating contaminated food, or by contact with infected persons or carriers of the infection. Also transmitted by insects, rodents, and pets.  Onset: Usually within 12 to 36 hours.  Duration: 2 to 7 days.	Salmonellae in food are destroyed by heating the food to 140° F. and holding for 10 minutes or to higher temperatures for less time; for instance, 155° F. for a few seconds. Refrigeration at 40° F. inhibits the increase of Salmonellae, but they remain alive in foods in the refrigerator or freezer, and even in dried foods.
<u>Perfringens poisoning.</u>  Examples of foods involved: Stews, soups, or gravies made from poultry or red meat.	<i>Clostridium perfringens</i> . Spore-forming bacteria that grow in the absence of oxygen. Temperatures reached in thorough cooking of most foods are sufficient to destroy vegetative cells, but heat-resistant spores can survive.	Nausea without vomiting, diarrhea, acute inflammation of stomach and intestines.	Transmitted by eating food contaminated with abnormally large numbers of the bacteria.  Onset: Usually within 8 to 20 hours.  Duration: May persist for 24 hours.	To prevent growth of surviving bacteria in cooked meats, gravies, and meat casseroles that are to be eaten later, cool foods rapidly and refrigerate promptly at 40° F. or below, or hold them above 140° F.
<u>Staphylococcal poisoning (frequently called staph).</u>  Examples of foods involved: Cuts, tarts, egg salad, potato salad, chicken salad, macaroni salad, ham, salami, cheese.	<i>Staphylococcus aureus</i> . Bacteria fairly resistant to heat. Bacteria growing in food produce a toxin that is extremely resistant to heat.	Vomiting, diarrhea, prostration, abdominal cramps. Generally mild and often attributed to other causes.	Transmitted by food handlers who carry the bacteria and by eating food containing the toxin.  Onset: Usually within 3 to 8 hours.  Duration: 1 to 2 days.	Growth of bacteria that produce toxin is inhibited by keeping hot foods above 140° F. and cold foods at or below 40° F. Toxin is destroyed by boiling for several hours or heating the food in a pressure cooker at 240° F. for 30 minutes.
<u>Botulism.</u>  Examples of foods involved: Canned low-acid foods, smoked fish.	<i>Clostridium botulinum</i> . Spore-forming organisms that grow and produce toxin in the absence of oxygen, such as in a sealed container.	Double vision, inability to swallow, speech difficulty, progressive respiratory paralysis. Fatality rate is high, in the United States about 65 percent.	Transmitted by eating food containing the toxin.  Onset: Usually within 12 to 36 hours or longer.  Duration: 3 to 6 days.	Bacterial spores in food are destroyed by high temperatures obtained only in the pressure canner. <sup>1</sup> More than 6 hours is needed to kill the spores at boiling temperature (212° F.).  The toxin is destroyed by boiling for 10 to 20 minutes; time required depends on kind of food.



## SUMMERTIME

## — AND FOOD SAFETY

You CAN prevent food-borne illnesses according to Dr. Evelyn Spindler, nutritionist with the Extension Service, U.S.



CHARLIE —

"Hi! I'm Charlie, one of the good bacteria. I'm in the food you eat, the air you breath, the water you drink."

Department of Agriculture. It's often poor food-handling practices in the home that cause food-borne illnesses in the family -- even though the food at the point of purchase was safe to eat, Dr. Spindler emphasizes.

What happens in the home? Even on your way home the groceries may be sitting in a warm car while you do other errands.

This allows bacteria to grow. Get your food home where you can put it in the refrigerator or freezer promptly. Remember the basic

## Food Safety Practices —

- \* Hot foods should always be served HOT (above 140° F).
- \* Cold Foods should be served COLD (below 40° F).
- \* Don't let cooked food stand at room temperature for more than 2 or 3 hours. (That includes preparation, storage, and serving time).
- \* Hands should always be clean when you handle any food. After handling raw meat, fish, poultry, or eggs, wash your hands with soap and hot water before working with other foods. This prevents spreading bacteria.

SAL —

"And I'm Salmonella, one of the bad bacteria. Just call me Sal. I'm found in raw meat, fish, poultry, and eggs, and I'm carried by dirty hands. I can make people sick."

Some Special Food Safety Problems

## Meat and Poultry

If you are planning on preparing a roast turkey...the safest method is not to stuff the turkey; cook it separately.



STAPH —

"Don't forget me. I'm Staphylococcus, another of the bad bacteria. My nickname's Staph. I come from sneezes, coughs, and careless hands and I form a toxin in hams, custard-filled foods, cream pies, unrefrigerated cooked meat, and dairy products. Cooking kills me, but not my toxin!"

## SUMMERTIME AND FOOD SAFETY (Con't.)

After mixing a large quantity of stuffing, cook it immediately. Stuffing is a breeding place for bacteria. Letting large masses of lukewarm stuffing stand at room temperature encourages bacteria to grow.

### Gravy

Broth and gravy are especially subject to spoilage. Cool leftovers quickly and put them in the refrigerator. Don't hold broth and gravy more than a day or two. To serve again, reheat and boil for several minutes before serving. Always serve hot.

### Cream Pies and Puddings

Cream pies and cream puffs are foods often involved in food poisoning. Since cream pies and cream-filled pastries get soggy if refrigerated too long, it is a temptation to leave them at room temperature. Don't. This encourages bacteria to grow. Fill pastry as close to serving time as possible.

### Sandwiches and Salads

Special care is needed for ham sandwiches, turkey and chicken salads. And deviled eggs! But -- you could prepare the sandwiches -- freeze -- then thaw as needed. If you're planning to serve chicken salad, why not freeze the cubes of chicken and use them in preparing the salad? They will thaw as the salad stands, keeping it as cold as possible. All salads should be prepared carefully -- under sanitary conditions...clean hands, utensils and work surfaces. Mixtures of foods that require several steps and handling such as meats, fish and salads are most likely to be contaminated.

Food poisoning does not necessarily have a bad smell or taste. Just because the food doesn't seem spoiled doesn't mean it is all right to eat.

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